Proposal For Validation Metrics

CDM/ISEA Standardization Committee

Validation Subcommittee

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Types of Validations

- Installation - (Modernization) - supports the installation of new equipment. Examples include:
  - COP
  - Availability Work Packages
  - AIT Packages

- Operational Inspections - (Grooms) - Examples include:
  - CSRR
  - PSART

- Maintenance - provides the 'warm-fuzzy' that current configuration data is accurate (i.e. confidence validations) - Examples include:
  - SSVA
  - 'As Requested'
  - Installation Confirmations
  - etc.

Metric #1:
Overall Effect of Validation Efforts on Allowance Effectiveness
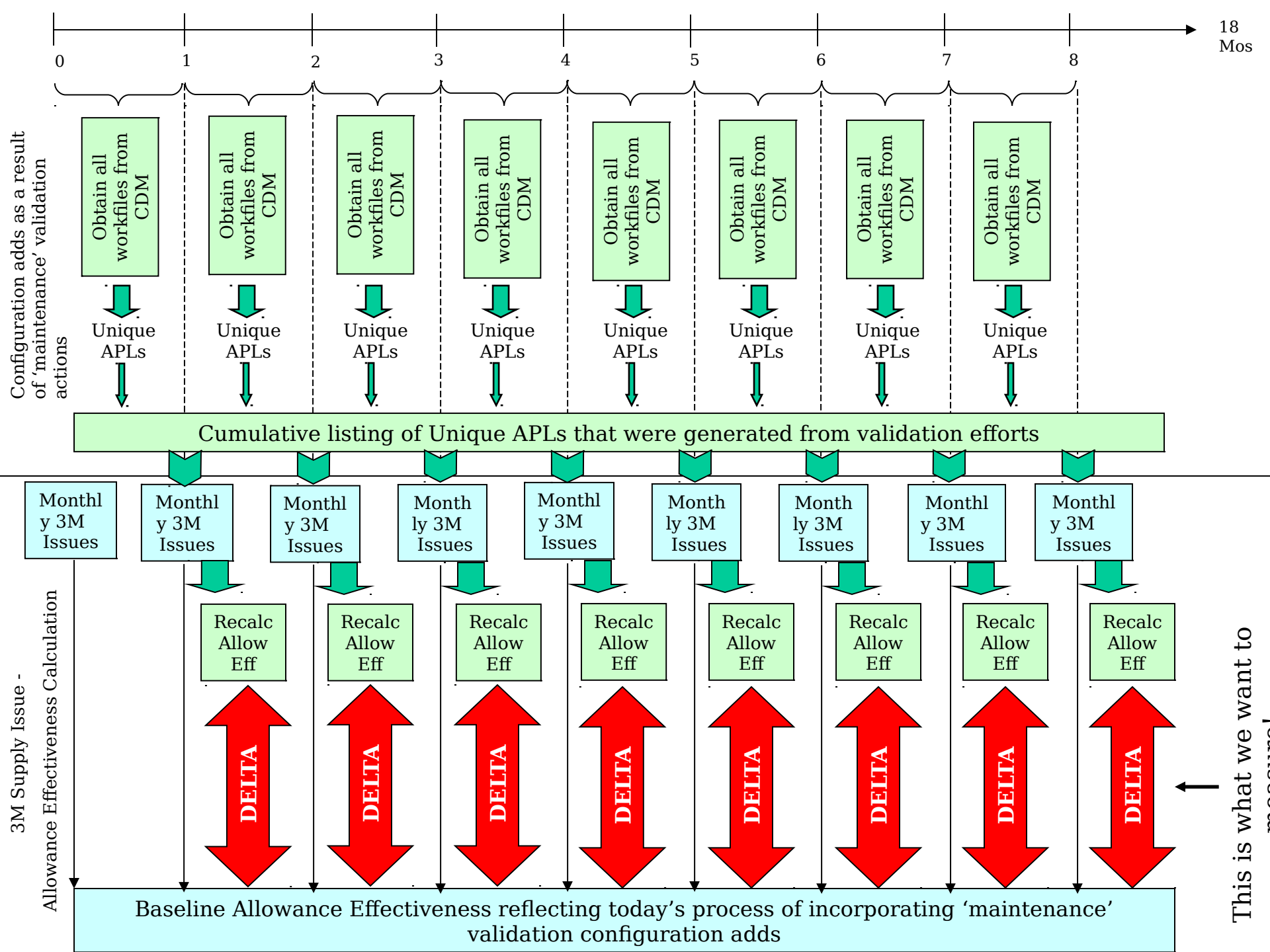
- What is the overall cumulative effect of validations on ships' readiness?

- Allowance Effectiveness is a Fleet-wide accepted metric that is based on the source codes assigned by SNAP when a part is issued

- Offers an indication of how the ship's COSAL allowances (configuration AND allowance computation model) are supporting the ship's readiness

- Allow Eff is calculated using reported 3M parts issues:

$$\frac{\text{(all parts issued with allowances)}}{\text{(all parts issued with allowances + all parts issued without allowances)}}$$

Proposal:

- Obtain validation workfiles from CDMs to determine submitting activity, type of validation, and RIC adds

- Obtain 'rolling' 18 months (1 op cycle) of 3M supply issue data from predetermined start date

- Determine what part issues would have been adversely affected by comparing workfile RIC add to 3M issue APL

- Recalculate Allowance Effectiveness to show impact on effectiveness if the validation had not been done.

Timeline: 0 1 2 3 4 5 6 7 8 → 18 Mos

Configuration adds as a result of 'maintenance' validation actions

Obtain all workfiles from CDM → Unique APLs (×8)

Cumulative listing of Unique APLs that were generated from validation efforts

3M Supply Issue - Allowance Effectiveness Calculation

Monthly 3M Issues (×9)

Recalc Allow Eff (×8)

DELTA (×8)

Baseline Allowance Effectiveness reflecting today's process of incorporating 'maintenance' validation configuration adds

This is what we want to measure!

Example of Proposed Data and Report Format:

This is what would happen to Effectiveness if these types of validations were not performed!

Baseline Allownace and Gross Effectriveness

Combined numbers from All Maint Validations

Effect of all maint validations on Allow and Gross Eff

Specific Activity and Validation Type

Effect of specific validation on Allow and Gross Eff

USS Neversail

		Jan-98	Mar-98	Apr-98	May-98	Jun-98	Jul-98	Overall
3M - 18 mo extract		7/96 - 1/98	9/96 - 3/98	10/96 - 4/98	11/96 - 5/98	12/96 - 6/98	1/97 - 7/98	7/96 - 7/98
	Total Issues	3350	3395	4050	3180	3300	3250	8638
	Allow Eff	76.5%	76.5%	76.4%	76.6%	76.7%	76.5%	76.5%
Recalculation:								
Total:								
	#RICS		350	20	0	40	0	410
	#3M issues affected		15	15	40	141	147	310
	Recalc Allow Eff	76.5%	76.4%	76.3%	76.0%	73.2%	76.5%	75.8%
	Difference		-0.1%	-0.1%	-0.6%	-3.5%	0.0%	-0.7%
ILO SSVA								
	#RICS		350	0	0	0	0	350
	#3M issues affected		15	15	40	100	102	272
	Recalc Allow Eff		76.4%	76.3%	76.0%	73.5%	73.5%	75.1%
	Difference		-0.1%	-0.1%	-0.6%	-3.2%	-3.0%	-1.4%
FTSC CSRR								
	#RICS		20	0	0	0		20
	#3M issues affected		0	0	1	3		3
	Recalc Allow Eff		76.4%	76.6%	76.7%	76.4%		76.5%
	Difference		0.0%	0.0%	0.0%	-0.1%		0.0%
ISEA "Groom"								
	#RICS					40	0	40
	#3M issues affected					30	40	35
	Recalc Allow Eff					76.4%	76.3%	76.4%
	Difference					-0.3%	-0.2%	-0.2%

18 mos after last workfile

Shows impact on effectiveness (ROI). Review specific processes.

Shows impact on effectiveness (ROI). Recommend to keep process

Shows no ROI. Recommend to eliminate process

Shows little ROI. Recommend to eliminate process

Note: This data is fictitious and does not reflect actual numbers, percentages or recommendations

Metric #2:
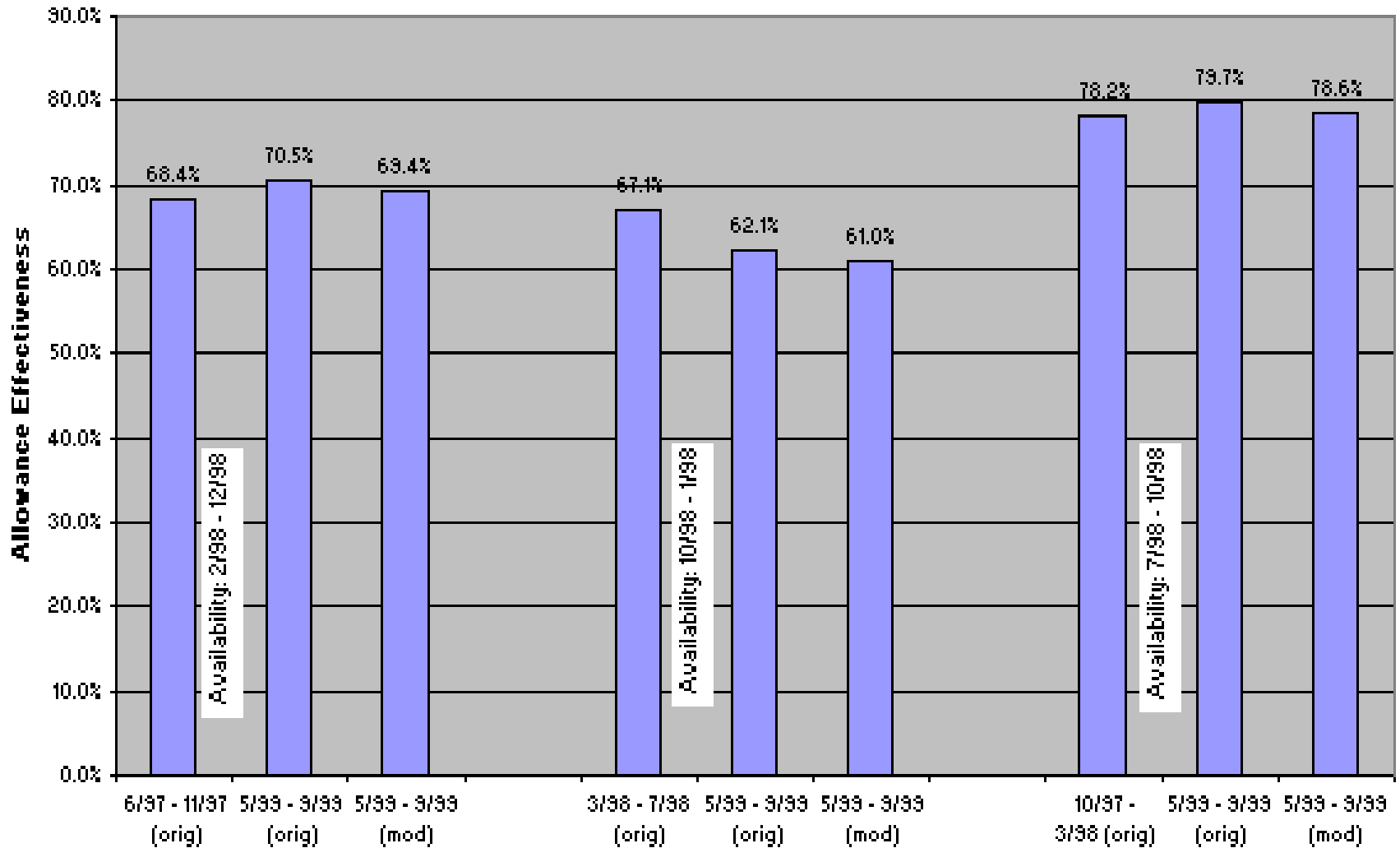## Comparison of Allowance Effectiveness during Deployment Cycles

- **What is the effectiveness difference between the deployment cycle before and after validations efforts?**

- **Deployment cycles offer a measure of 'true operational' readiness**
  - ship is "on its own"
  - issues won't include grooms, pre-deployment work-ups

- **Offers an indication of how the ship's COSAL allowances (configuration AND allowance computation model)**
  - were supporting ship's readiness prior to the validation efforts
  - are supporting ship's readiness after the validation efforts

Proposal:

- Obtain dates for:
  - deployment prior to last availabiity
  - last availability
  - deployment after last availability

- Obtain 3M supply issue data for deployments

- Determine what part issues would have been adversely affected by comparing workfile RIC add to 'post availability' 3M issue APLs

- Recalculate Allowance Effectiveness for post availability deployment to show impact on effectiveness if the validation had not been done.

Example of Proposed Deployment Measurements

Allowance Effectiveness During Deployments

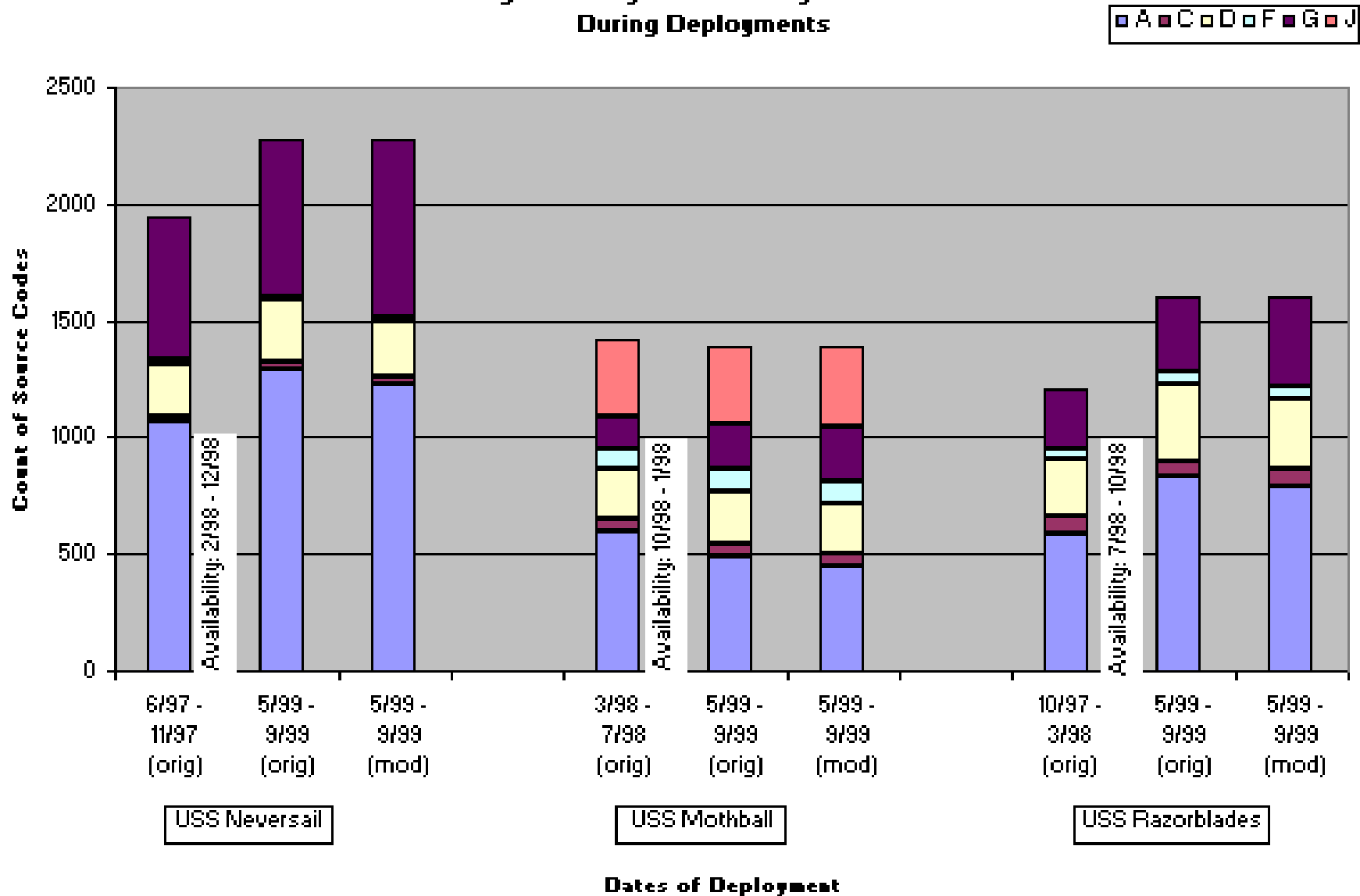Note: This data is fictitious and does not reflect actual numbers, percentages or recommendations

Example of Proposed Deployment Measurements

Average Monthly 3M Issues by Source Code During Deployments

Note: This data is fictitious and does not reflect actual numbers, percentages or recommendations